Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules Governing Hearing Aid Compatible Mobile Handsets	)	WT Docket No. 07-250
	)	WT Docket No. 01-309
Section 68.4(a) of the Commission's Rules Governing Hearing Aid Compatible Telephones	)	

Comments of the Rehabilitation Engineering Research Center
on Telecommunications Access

Judith E. Harkins, Director
Linda Kozma-Spytek, Research Audiologist
Rehabilitation Engineering Research Center
on Telecommunications Access
Technology Access Program
Gallaudet University
800 Florida Avenue, NE
Washington, D.C. 20002-3695

Of counsel:

Karen Peltz Strauss
KPS Consulting
3508 Albemarle Street, NW
Washington, DC 20008-4214
202-363-1263

December 21, 2007

SUMMARY

The Rehabilitation Engineering Research Center on Telecommunications Access (RERC-TA) and Technology Access Program of Gallaudet University (TAP) supports the Commission's tentative proposals to adopt the many components of the Joint Consensus Plan. We believe that the Plan's new deployment schedule will significantly benefit consumers and successfully achieve the roll out of HAC compliant telephones in a technologically neutral manner. In addition, the RERC-TA offers the following comments on matters that were not addressed in the Joint Consensus Plan:

- Manufacturers should make efforts to produce handsets with M4 and T4 capability to accommodate greater numbers of individuals with hearing aids.
- Wireless carriers should explain their "tiering" methodology in their reports, websites and retail stores so that consumers have clear information as to how their handset categories are divided by function, feature, frequency band and price.
- The FCC should require the inclusion of model numbers (and the FCC ID associated with each model), M and T ratings, air interfaces, and frequency bands in reports submitted by the wireless industry.
- The FCC should adopt various measures to improve its information and outreach in order to assist consumers in finding compatible handsets.
- The FCC should determine how to amend the *de minimis* exception in order to capture popular handsets distributed nationwide when these are produced by prosperous companies that are not likely to ever produce more than one or two handsets.

- Industry should not be permitted to count multi-mode phones as HAC in any mode if the phones operate over air interfaces for which technical standards have not been established.

- The wireless industry should be under a continuous obligation to incorporate compatibility into its handsets. To this end, the FCC should establish a mechanism by which its HAC rules will automatically become applicable to new frequency bands as these are developed and become covered by technical standards.

- The FCC, and more specifically, OET, should continue to play a prominent role in the evaluation and approval of standards promulgated by the industry and ANSI C63.

- The FCC should apply the HAC rules that are finalized in this proceeding to handsets used with wireless VoIP services. The FCC should plan to review revisions to its rules for other emerging technologies during its 2010 review of the HAC rules.

TABLE OF CONTENTS

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules Governing Hearing Aid Compatible Mobile Handsets	)	WT Docket No. 07-250
	)	
	)	WT Docket No. 01-309
Section 68.4(a) of the Commission's Rules Governing Hearing Id Compatible Telephones	)	
	)	

Comments of the Rehabilitation Engineering Research Center
on Telecommunications Access

I. Introduction

The Rehabilitation Engineering Research Center on Telecommunications Access (RERC-TA) submits these comments in response to the Federal Communications Commission's (FCC or Commission) Notice of Proposed Rulemaking (NPRM) on the provision of hearing aid compatible handsets by wireless service providers and manufacturers.[1] The RERC-TA is a joint project of Gallaudet University's Technology Access Program (TAP) and the Trace Center of the University of Wisconsin, Madison that is funded

[1] *In the Matter of Amendment of the Commission's rules Governing Hearing Aid Compatible Mobile Handsets, Section 68.4(a) of the Commission's Rules Governing Hearing Aid Compatible Telephones,* Second Report and Order and Notice of Proposed Rulemaking, WT Dkt. No. 07-250, WT Dkt. No. 01-309 (November 7, 2007).

by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education[2]. The primary mission of the RERC-TA is to find ways to make standard systems directly usable by people with all types and degrees of disability, and to work with industry and government to put access strategies into place. TAP conducts research related to communication technologies and services, with the goal of producing knowledge useful to industry, government, and deaf and hard of hearing consumers in the quest for equality in communications. The program provides education to Gallaudet students through coursework and mentored research projects related to TAP's research mission.

The RERC-TA has previously submitted comments in response to numerous FCC proceedings on hearing aid compatibility issues,[3] and was actively involved in the industry-consumer negotiations under the auspices of the Incubator Solutions Program #4 - Hearing Aid Compatibility of the Alliance for Telecommunications Industry Solutions (ATIS) that resulted in the Joint Consensus Plan submitted to the FCC in April of this year, as well as supplemental pleadings that further explained that Plan, submitted in June, 2007.[4] The RERC-TA believes that the Joint Consensus Plan

---

[2] Note that the comments submitted herein do not necessarily reflect the opinions of the U.S. government.

[3] Comments submitted by the RERC-TA earlier this year in this docket were filed under TAP and cited by the Commission as such.

[4] Supplemental Comments of the Alliance For Telecommunications Industry Solutions'

effectively modifies the planned roll-out of HAC compliant telephones in a technologically neutral manner that will improve the availability of telecoil-compatible handsets for people who rely on telecoil coupling, and appropriately provides for a future review of the HAC mandates as well as a study of audio output levels and volume controls on wireless handsets.

The RERC-TA/applauds both the Wireless Telecommunications Bureau (Bureau) and the Commission for its conscientious efforts to review and summarize the many issues in the instant proceeding. Both the Staff Draft produced by the Bureau and the NPRM take significant – and perhaps unprecedented – steps in recognizing the need for access by individuals who use hearing aids and cochlear implants as emerging technologies enter the wireless marketplace. We appreciate not only the willingness of the Bureau and the Commission to adopt the many proposals set forth in the Joint Consensus Plan, but their eagerness to ensure that people with hearing loss continue to have equal access to communications equipment and services as anticipated and future uses of wireless technologies make their way into in the consumer marketplace.

II. Comments

In the following comments, the RERC-TA concurs with ATIS in supporting FCC proposals that adopt recommendations contained in the

---

Incubator Solutions Program #4 – Hearing Aid Compatibility (June 25, 2007) (Supplemental Comments).

Joint Consensus Plan. In addition, the RERC-TA offers feedback on new issues raised in this proceeding that were not addressed in that plan.

A. Handset Deployment Deadlines for Tier I Carriers

The FCC proposes to adopt the new deployment deadlines in the Consensus Plan for the M3 and T3 benchmarks through 2011. The RERC-TA agrees with the Commission that the new thresholds "strike an appropriate balance between maintaining technological neutrality and ensuring availability of hearing aid-compatible handsets to affected consumers."[5] Among other things, as compared with the current deployment schedule, the greater number of handsets that will have inductive (telecoil) coupling under the new benchmarks will significantly benefit individuals with severe to profound hearing loss, who are less able to benefit from phones that rely on acoustic coupling with reduced RF interference. Inductive coupling allows individuals to turn off the hearing aid's microphone to eliminate the background noise and feedback associated with acoustic coupling; by expanding the number of such phones that must have this feature beyond the current two, the proposal will allow a far greater number of individuals to have access to wireless devices.[6] While the new schedule will reduce somewhat the HAC obligations for devices that rely on acoustic coupling, such reduction will be offset by the abundance of M3 or greater wireless

[5] NPRM at ¶43.

[6] HLAA has noted that the use of telecoil-equipped hearing aids has been increasing among its membership. *Staff Report* at ¶ 35 n.91.

phones already available – and expected to continue to be available – in the CDMA air interface.

The FCC seeks feedback on whether it should require staggered deployment deadlines for manufacturers and service providers. The RERC-TA agrees with ATIS and HLAA that one deployment deadline of February 18 for manufacturers and carriers, as proposed in Joint Consensus Plan, would cause the least confusion and result in the best compliance with the HAC mandates. However, given the fact that Tier II and III carriers are dependent on the distribution of supplies from manufacturers who sometimes give priority to their larger customers, the RERC-TA would not oppose giving these carriers a briefly staggered deadline of six weeks to three months, to eliminate the need to file extensive waiver requests. Such requests are time-consuming for both commenters and the FCC, and may be alleviated by adding this brief interval of time.

B. M4 and T4 Handsets

In addition to the deployment benchmarks laid out for M3 and T3 rated handsets, the FCC inquires as to whether it should consider adopting any future M4 or T4 handset compliance requirements.[7] The RERC-TA believes that where it is technically feasible, manufacturers should build in M4 and T4 capability to accommodate individuals with hearing aids who are unable to benefit from M3 and T3 telephones, and to provide the best possible

[7] NPRM at ¶49.

telephone experience for all hearing aid and cochlear implant users. The RERC-TA proposes that this matter also be on agenda for the HAC review conducted in 2010 (see below).

C. Range of Handsets/ Product Refresh

The RERC-TA supports the Commission's proposal to adopt the product refresh in the Consensus Plan, so that consumers have access to newer phones that offer more advanced features as these are deployed to the general public. As for the FCC's further inquiry into what can be done to ensure that consumers have HAC handsets with different levels of functionality, the RERC-TA notes that the supplemental comments to the Consensus Plan acknowledged that "people with hearing loss want a choice in product types and prices," and industry promised to include information on such "tiering" in their carrier reports.[8] The FCC should adopt this proposal, as consistent with its intent to ensure a range of HAC handset models from those that are economical to those with new and fancy features. The RERC-TA also believes that it would be beneficial for service providers, as part of their reports, websites, and in store displays, to explain their "tiering" methodology so that consumers have clear information as to how their handset categories are divided by function, feature, frequency band and price. However, we agree with ATIS, that given rapid changes in technology, the FCC should leave the actual task of defining how phones are tiered to the

[8] Supplemental Comments at 12.

wireless industry. Finally, the RERC-TA urges the FCC to require Tier II and III carriers to meet this obligation, to ensure a range in handset functions, features and prices for all consumers.

D. ANSI Standard

In accordance with the Consensus Plan, the RERC-TA agrees that the FCC should disallow use of multiple versions of ANSI C63.19 for RF interference and inductive coupling and instead codify a single 2007 version of the testing standard, but permit both the 2006 and 2007 versions of the standard for HAC compliance purposes through 2009.[9] In addition, the RERC-TA agrees with ATIS that each device being measured during this phase out period must continue to use a single version of the standard (either the 2006 or 2007 version) for all measurements of that device. Finally, the RERC-TA agrees with the Commission that it is appropriate to continue authorizing the Chief of the Wireless Telecommunications Bureau, in coordination with the Chief of the Office of Engineering and Technology (OET) to approve use of future versions of the standard to the extent that these do not raise major compliance issues that would need to be addressed by the full Commission.[10]

E. Reporting Obligations

The RERC-TA supports the FCC's tentative proposal to adopt the reporting requirements contained in the Joint Consensus Plan, and to add

[9] NPRM at ¶60-62.

[10] *Id.* at ¶60 n.131.

new requirements for the submission of information on model numbers and the FCC ID associated with each model, the M and T ratings for each model as certified under the ANSI C63.19 standard, air interfaces, and frequency bands over which each HAC handset operates.[11] In addition, the RERC-TA supports the use of a standardized form or template for gathering and submitting this information in a consistent fashion, and does not object to use of the standardized form that was created by ATIS, which has already been used for the filing of its consolidated HAC compliance reports.[12] With respect to the timing of the reporting deadlines, the RERC-TA urges the Commission to continue requiring the delivery of status reports on an annual basis, and to adopt the deadlines proposed in the Joint Consensus Plan for manufacturers to report on November 30 and carriers to report on May 30 of each year. Finally, the RERC-TA agrees with the FCC that it makes little sense to allow Tier II and III carriers to delay the filing of their reports beyond the deadline applicable to Tier I carriers. All carriers should be subject to the same deadline for the submission of their annual status reports to avoid confusion and provide consumers, researchers and the Commission timely information.

F. Public Information and Outreach

In addition to annual reporting, the FCC has requested comment on other ways to increase the availability of HAC information to consumers, service providers, and others. In this regard, the RERC-TA agrees that the

[11] *Id.* at ¶ 68.

[12] *Id.* at ¶ 69.

FCC should adopt the following specific measures, which are designed in part to improve the utility of the FCC's databases and websites for consumers seeking HAC information:

- Develop a single location or website where hearing aid users can find the ratings and model numbers of compliant handsets offered by manufacturers and service providers;
- Add a search function to the FCC's equipment authorization database that will enable consumers to browse among phone features by category;
- Add links to manufacturers' and service providers' websites from DRO's web page;
- Publish HAC designated agents' contact information on the DRO website;
- Adopt a consumer-friendly method of handling HAC complaints that (1) requires FCC resolution within 90 days; (2) provides for a separate and identifiable electronic and telephonic FCC receptacle for HAC complaints; and (3) facilitates the filing of formal HAC complaints; and
- Adopt the proposal of the Joint Consensus Plan to have manufacturers post on their websites all ratings for all devices, including those that do not meet FCC requirements

In addition, we agree with HLAA that a downloadable version of the brochure on HAC handsets (developed by Working Group 6 of the ATIS Incubator) should be made available on company websites and that print versions of this brochure should be available in retail stores, as this would be of considerable assistance to consumers. As HLAA notes, the more information about accessibility features that is available on company websites and advertisements (HLAA suggests, for example, information about HAC ratings, volume control levels, vibrating features, low frequency ring tones, and Qwerty keyboards), the better consumers will be able to locate phones suited to their accessibility needs.

HLAA has also proposed the following set of guidelines for handling in-store testing by consumers:

- Spend extra time with customers using hearing aids or cochlear implants when necessary;
- Have store personnel know which phones are HAC;
- Have reference information readily available in the store or on a website;
- Allow customers to try more than one phone in the store;
- Have sales representatives learn techniques to facilitate communication with people with hearing loss, such as speaking more slowly;
- Allow customers to schedule appointments in advance at times that phones will be available for testing.
- Make arrangements to allow the placing of a real call.

We note that HLAA has also suggested that retail personnel make use of the consumer phone evaluation tool currently being developed by our center. The tool is designed to help hearing aid users to do a self-guided evaluation of telephones by placing a call to a phone number where pre-recorded conversations, including male and female voices, can be heard. Consumers listen to the conversations and rate the listening experience for each phone on a printed form. The form guides the consumers through a process to help them "try before they buy" in a structured and informed way. The form and evaluation process are now being tested by consumers visiting service providers' retail outlets. During this evaluation phase of the tool, CTIA has been working cooperatively with the RERC by hosting the call-in number. We also note that engineers at Motorola have been very helpful on the project.

RERC-TA supports all of the HLAA recommendations noted above as being in the spirit of the Communications Act's objective to provide equal telephone access for hearing aid and cochlear implant users.

G. Other Spectrum Bands

The RERC-TA supports the FCC's decision to adopt the Joint Consensus Plan's recommendation to apply the HAC rules to all spectrum bands used for the provision of CMRS in the United States that are subject to standards development. In order for the revisions to the HAC rules to be effective, standards development must be timely.

H. *De Minimis* Exception

The FCC's *de minimis* exception exempts providers and manufacturers that offer two or fewer digital wireless handset models from the HAC rules.[13] The RERC-TA agrees that the current *de minimis* exception for carriers and manufacturers should, as agreed to in the Joint Consensus Plan, be applied on a per-air-interface basis, and remain in place for those industry members who participated in that consensus.

However, recent changes to the wireless handset marketplace have called into question the extent to which the current *de minimis* exception should be applied on a permanent basis for all wireless handset manufacturers. Specifically, as noted in the supplemental comments to the Joint Consensus Plan, the original purpose of the *de minimis* exception was

[13] *See* 47 C.F.R. § 20.19(e).

twofold: (1) to allow new air interfaces entering the market to have an opportunity to develop prior to the imposition of any stringent HAC regulatory obligations and (2) to permit the phase-out of older, soon-to-be-discontinued air interfaces without requiring resources to be expended on making those interfaces compatible. At the time that negotiations over this issue were taking place, a permanent *de minimis* exception for handsets that fell into these categories appeared in order because historically and in practice, the companies introducing new wireless devices only qualified for the exception for a limited period of time. This is because these companies either began to provide more than three phones in the specified air interface fairly soon after their first model was released (thereby disqualifying them from the exception), or the companies discontinued the phones at issue, again eliminating the need for a continued exception.

Since the release of the Joint Consensus Plan, however, it appears that a new category of handset and manufacturers have entered the wireless marketplace. Specifically, the introduction of the Apple iPhone, and the anticipated arrival of the Google Mobile Phone,[14] have called into question the merits of the *de minimis* exception as it is now structured. The FCC has already declared that Apple's iPhone does not have to comply with the HAC

[14] *See* http://www.boston.com/business/technology/articles/2007/09/02/introducing_the_google_phone/ (retrieved December 18, 2007).

mandates because Apple manufactures fewer than three handset models.[15] The problem is that, as companies that are not traditionally or routinely in the business of manufacturing handsets, it is not clear when or whether Apple or Google will ever produce additional models that will pull them out of the *de minimis* category. Yet not only do both of these companies have significant resources to incorporate accessibility into their products, but their phones are likely to have mass appeal, offering features otherwise unavailable on other phone models. Were the *de minimis* exception to apply to these phones on a permanent basis, consumers with hearing loss might never have the opportunity to use these devices.

The Commission originally adopted the *de minimis* exception because it was concerned about having "a disproportionate impact on small manufacturers or those that sell or offer only a small number of digital wireless handsets, as well as on service providers that offer only a small number of digital wireless handset models."[16] It is apparent that this original purpose was not intended to permanently relieve large and prosperous companies, whose handsets produce handsome profits, from the

---

[15] NPRM at ¶53 n.110. The FCC might need to be reminded that Section 255 of the Communications Act requires manufacturers of telecommunications products to design, develop and manufacture products to be accessible by people with disabilities, if readily achievable. 47 U.S.C. §225. Thus, even if the phones at issue are currently exempt from the HAC mandates, they still must be made compatible with hearing aids if readily achievable.

[16] *See Hearing Aid Compatibility Order*, 18 FCC Rcd at 16781 ¶ 69; *see also Hearing Aid Compatibility Reconsideration Order and Further Notice*, 20 FCC Rcd at 11244 ¶ 51.

HAC mandates. For such companies, some limit to the *de minimis* exception is in order, whether that limit is absolute or time-based.[17]

I. Multi-mode Handsets

The RERC-TA supports the FCC's tentative conclusion, in accordance with the Joint Consensus Plan, that multi-mode handsets may not be considered HAC compliant for any air interface unless they are compatible in all air interfaces over which they operate. The RERC-TA also agrees with the FCC that multi-mode phones should not be counted as HAC in *any* mode if they operate over air interfaces for which technical standards have not been established. Consumers who purchase handsets that are labeled HAC have an expectation that such phones will be compatible in all of their operations. Indeed, this ruling would be consistent with the industry's promise to not consider handsets compatible unless they are compatible in all air interfaces over which they operate, and concomitantly, not to turn off any frequency bands just because they are not HAC. The RERC-TA fears that a contrary interpretation might provide disincentives for industry to move quickly in developing HAC standards for new frequency bands, i.e., without a reason to have a standard, there will be no incentive to complete the standard for a new band. Products and air interfaces should be tested while they are being developed, not as an afterthought. When the latter occurs, access is lost for consumers and it becomes far more burdensome to later add

[17] For example, the exception could apply for the first year that the product is in circulation in retail stores.

access back into the equipment at issue.

The RERC-TA also supports the FCC's tentative conclusion to cover services operating over any frequencies within the 800-950 MHz and 1.6-2.5 GHz bands, to the extent they use air interfaces for which HAC standards exist. As for whether it should be necessary to enact a change in the FCC's HAC rules to expand the coverage of those rules every time technical standards are established for new services, new air interfaces or new frequency bands (as is now the case), the RERC-TA agrees with HLAA that the Commission's HAC mandates should establish a mechanism by which such regulations would automatically become applicable to new frequency bands "as soon as, or within a defined period after, technical standards are established for relevant air interfaces."[18] All too often people with disabilities are left behind as new and advanced technologies proliferate throughout the American marketplace. As we approach the 20th anniversary of the HAC Act, it is time for the FCC to take action that will ensure that our nation's growing population of individuals with hearing loss have the telecommunications access they need to remain productive and independent members of society. Rules that automatically encompass new technologies will ensure that wireless companies and standard-setting bodies engage in ongoing efforts to develop HAC standards and technical operating specifications for new frequency bands as these technologies are designed and

[18] NPRM at ¶83.

developed. This is consistent with accessibility principles upon which our nation's policies are based, i.e., that mainstream telecommunications products should be accessible to and usable by the widest range of individuals, "off the shelf," without the need for additional adaptation.[19] By conforming to this principle, not only will the costs and burdens of retrofitting later on be eliminated; greater access for the millions of Americans that rely on HAC phones to communicate will be ensured.

Finally, the FCC asks whether it should have to approve revised standards for new frequency bands adopted by ANSI C63.19 (as it does now), or whether a standard should be considered "established" for a new frequency band upon its promulgation by ANSI C63. The RERC-TA believes that the FCC, and more specifically, OET, has a vital role to play in the evaluation and approval of standards promulgated by the industry and ANSI C63. The processes and procedures used by standards-setting bodies are not generally open or readily available to the public; rather, interested parties must pay to join these groups and participate in their standards setting operations – a costly and complicated proposition for nearly all consumers. This critical function should not be left to the sole discretion of industry, but rather should

---

[19] *See generally*, Deborah Kaplan, John DeWitt, and Maud Steyaert, *Telecommunications and Persons with Disabilities, Laying the Foundation. A Report of the First Year of the Blue Ribbon Panel on National Telecommunications Policy,* (November 1992), available at http://park.org/Guests/Trace/pavilion/foundatn.htm.

be subject to the oversight of the FCC, to ensure its timeliness and effectiveness.

J. Review for HAC rules in 2010

The RERC-TA urges the FCC to adopt the Joint Consensus Plan's proposal to conduct a further review of the HAC rules in 2010 (to take effect in 2012) so that "the needs of people with hearing loss are continually being met and that compliance with these rules continues to be practical in light of rapid technological advancements in hearing aid devices and wireless industry developments."[20] The RERC-TA also agrees with ATIS that the Joint Consensus Plan's 2011 deployment benchmarks should remain in effect until this review is complete and rule modifications are implemented.

K. Emerging Technologies

The FCC seeks comment on the extent to which its HAC rules should apply to various emerging technologies, including wireless handsets that operate on unlicensed WiFi networks that do not employ "an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless hand-offs,"[21] VoIP applications over WiFi and other wireless technologies, handsets that combine covered mobile voice operation with data services provided over WiFi networks, and handsets used with open platform networks.[22] As noted above, our nation's telecommunications

[20] ATIS Supplemental Comments at 12.

[21] NPRM at ¶89.

[22] *Id.* at ¶¶89- 97.

policy rests on principles of accessibility by which companies should endeavor to make their products and services accessible and usable by as great a number of individuals as possible, regardless of their functional limitations. The imminent and rapid proliferation of wireless VoIP services warrants a revision to the FCC's rules that would make these rules applicable to phones used with these services over the next few years. For the same reason, RERC-TA believes there should be no difference in the application of the HAC rules to service providers and other entities that offer handsets to consumers within an open platform environment. To the extent that service providers must comply with deployment, information, and outreach requirements, so too should other entities that market telecommunications services that are either not bundled with equipment, or are otherwise available in an open platform environment. Finally, in the interest of promoting equal access to communications for consumers with hearing loss, the FCC should plan to review revisions to its rules for other emerging technologies during its 2010 review of the HAC rules. By then, the Commission should have a better idea of the deployment schedule that will be needed to extend these regulations, to ensure that people with hearing loss have access to the full array of commercially available wireless devices.

L. Volume Control

The RERC-TA agrees with the FCC on the need to consider whether volume control requirements for wireless phones should be added into its wireless HAC rules.[23] Volume control mandates were implemented as part of the HAC mandates for wireline telephones following the FCC's negotiated rulemaking that took place in the mid-1990s.[24] The added feature of amplification on telephone handsets is extremely useful to Americans with and without hearing loss in a wide variety of settings, especially public locations that are often noisy.

However, a decision about whether volume control requirements are needed cannot be made until we learn more about the interaction between the audio output of wireless handsets and the programming characteristics of modern digital hearing aids. To this end, as part of the Joint Consensus Plan, the ATIS HAC Incubator has formed a new working group that has already begun investigating the interaction of these two devices. This group, co-chaired by representatives from the RERC-TA and AT&T, consists of the member companies who are signatories to the Joint Consensus Plan, the wireline industry, and the hearing aid industry. The findings of this investigation, including recommendations for achieving adequate listening levels for consumers who wear hearing aids while using wireless phones, will be shared with the Commission upon the completion of this group's efforts. In support of this important work, the RERC-TA requests that the FCC

[23] *Id.* at ¶87.

[24] These mandates are codified at 47 C.F.R. §68.317.

encourage consistent, active involvement in this working group by all participants of the Joint Consensus Plan.

M. Display Screens on Smart Phones

As the FCC notes, Gallaudet's TAP Program has commented that electromagnetic energy that emanates from the display screens on smart phones may interfere with hearing aids operating in telecoil mode. In fact, the problem caused by such interference is aggravated by the fact that display screens typically become illuminated automatically as users adjust the device's volume control. Thus, the device is held up to the ear when the screen lights up, and interference to the telecoil can result. The FCC now seeks comment on this issue, including whether measures are needed to promote the deployment of phones that enable users to turn off their screens. We suggest that a simple change, such as not having the screen light up when volume is adjusted, would greatly ameliorate the problem. The RERC-TA recommends that the FCC include this issue of display screen interference with hearing aids as part of its review of the HAC rules in 2010.

III. Conclusion

The RERC-TA greatly appreciates the considerable efforts taken by the FCC to carefully enumerate the many issues addressing HAC implementation and compliance both now and in the years to come. We applaud the FCC's decision to adopt the measures set out in the Joint

Consensus Plan and stand ready to assist the Commission in resolving matters that go beyond the components of this plan.

Respectfully submitted,

/s/

Judith E. Harkins, Director
Linda Kozma-Spytek, Research Audiologist
Rehabilitation Engineering Research Center
on Telecommunications Access
Technology Access Program
Gallaudet University
800 Florida Avenue, NE
Washington, D.C. 20002-3695
202-651-5257

Of counsel:

Karen Peltz Strauss
KPS Consulting
3508 Albemarle Street, NW
Washington, D.C. 20008-4214
202-363-1263
kpsconsulting@starpower.net

December 21, 2007